

Application No.: 10/577,286  
Amendment and Response dated January 4, 2008  
Reply to Office Action of October 17, 2007  
Docket No.: 903-186 PCT/US  
Page 6

**Remarks/Arguments:**

**Introduction**

Page 5, lines 5-6 of the description is corrected to bring the English translation of the application into conformity with the original Dutch text of the application. “Door de spiegelwerking van de zijwanden ontstaat op deze wijze een zich alzijdig als spiegelbeeld herhalende lichtbron” had inadvertently been translated as “This produces a constantly recurring light source”. The correct translation should read “As a result of the mirroring side walls a light source recurring as a mirror image on all sides is produced” is the correct translation of what is intended”. A statement by a Dutch Patent Attorney, who is familiar with both the Dutch and English languages, is attached, the statement stating the accuracy of such translation.

Claims 1, 3, 10 and 14 have been amended. Claims 2, 4, 11 and 12 have been canceled. Claim 16 has been added. Support of the amendments to claim 1 may be found in the specification at

- (a) “device” is replaced by “inspection device” as supported by originally filed claim 1;
- (b) “a supporting surface for supporting the objects” is replaced by “a conveyor adapted to convey a plurality of objects placed next to each other in a direction transverse to the conveying direction”, support for which may be found in the specification at Fig. 1, at page 5, lines 13-33 and in originally filed claim 3;
- (c) “optical observation means” is replaced by “at least one camera”, support for which may be found in originally filed claim 12;
- (d) “on the conveyor” has been added, support for which may be found in the specification at page 6, lines 4-14;

- (e) “reflective walls” is replaced by “reflective side walls having a mirroring surface”, support for which may be found in originally filed claim 4 and in the specification at page 4, line 20;
- (f) (a light source) “which is accommodated opposite the conveyor for illuminating the objects from above” is added, support for which may be found in Figs. 1, 2 and in originally filed claim 7;
- (g) (the light source) having “a substantially even light plane directed towards the inside of the box” has been added, support for which may be found in the specification at page 4, lines 1-3; and
- (h) “and which light source, as a result of the mirroring side walls, recurs on all sides so as to provide uniform illumination of the objects on the conveyor from all sides” is added, support for which may be found in the specification at page 5, lines 5-6.

Original claim 3 has been amended in that “top wall” has been replaced by “top cover plate”. Support for this amendment may be found in the specification at Figs. 1-4 and at page 4, lines 28-29. Claim 10 has been amended in that “the light source comprises one or more diffuser plates which cover the lamps on the inside of the box” is replaced by “the light source is arranged beneath the top cover plate above one or more diffuser plates”. Support of this amendment may be found in the specification at page 3, lines 32-33, and page 4, lines 29-30. Claim 14 has been amended for antecedent basis following the amendments to claim 1. Claim 16 has been added. Support for this claim may be found in the specification at page 6, lines 26-28.

No new matter is introduced with these amendments. Entry of the amendments is respectfully requested.

**Section 102 Rejections**

Application No.: 10/577,286  
Amendment and Response dated January 4, 2008  
Reply to Office Action of October 17, 2007  
Docket No.: 903-186 PCT/US  
Page 8

Claims 1-5, 7-12 and 15 are rejected under 35 U.S.C. §102(b) as allegedly being anticipated by JP 08005563 to Kinoshita et al. (hereinafter “Kinoshita”). Applicant respectfully traverses.

The present invention relates to an inspection device, in particular for inspecting objects with a substantially spherical surface, such as for example eggs or fruit. The illumination of eggs or fruit is very important for the results of the inspection. Shadows are to be avoided to prevent the shadows as being incorrectly regarded as dirt or irregularities. Such shadows are avoided by the use of, *inter alia*, highly reflective side walls, in particular side walls having a mirroring surface to substantially reflect the light. Such mirroring surfaces are in direct contrast to the applied prior art which purposely use diffusively directed light, such as by applying a white matt paint to the light diffusing surfaces.

Kinoshita discloses a camera sorter having a housing type cover body provided with an inlet and outlet through which a conveyor passes, a reflective inner wall face, a camera disposed at the upper central part and illumination light sources fixed at the upper periphery directed to the reflective wall face. The inspection device of Kinoshita, however, is based on diffuse reflection of light obtained by applying paint. (Kinoshita translation, paragraph [0009], lines 3-4; “applied the reflective paint a to wall 1a, and formed the reflective wall surface 2”). Indeed, Kinoshita teaches away from the use direct light, including reflected direct light, onto an object to be photographed as such direct light will interfere with blemish measurement, the intended purpose of Kinoshita. (Kinoshita translation, paragraph [0013], “soft indirect lighting by which the reflected light is irradiated almost uniformly from various include angles to massive garden stuff A by carrying out reflective diffusion for this reason, the strong reflected light of the specific direction does not occur, and misconception measurement is not carried out by making the reflected light into blemish etc”).

The inspection device according to the subject application differs from Kinoshita by the following distinguishing features:

Application No.: 10/577,286  
Amendment and Response dated January 4, 2008  
Reply to Office Action of October 17, 2007  
Docket No.: 903-186 PCT/US  
Page 9

according to the invention on the conveyor a plurality of objects can be placed next to each other in a direction transverse to the conveying direction, according to the invention the light source has a substantially even light plane directed towards the inside of the box, and, *inter alia*, according to the invention the reflecting side walls of the box have a mirroring surface, providing specular reflection (opposite to diffuse reflection obtained e.g. by applying white matt paint).

The effect of these features is that the light source recurs on all sides so as to provide uniform illumination of the plurality objects placed next to each other on the conveyor from all sides. The obtained illumination of the eggs and fruit has proven to minimize shadowing, and therefore improve the accuracy of the inspection device, also with a plurality of objects placed next to each other. This effect of a mirror-type constantly recurring light source can not be obtained by matt paint because light from such a painted surface only results in diffuse reflection of the light. The effect of illumination from the mirroring surfaces of the present invention is not only unique, but also creates uniform illumination of the objects without the need for complicated positioning of the light sources.

Thus, Kinoshita fails to disclose the invention as presently defined by claim 1. Reconsideration and withdrawal of the Section 102 rejections are respectfully requested.

### Section 103 Rejections

Claim 6 is rejected under 35 U.S.C. §103(a) as allegedly being obvious over Kinoshita in view of U.S. U.S. Patent No. 1,947,142 to W. J. Ward et al. (hereinafter "Ward").  
Applicant respectfully traverses.

Ward discloses an apparatus for the inspection of eggs on a conveyor. From Figs. 6-8 it is clear that illumination occurs from below, and a lens is provided above the eggs for better inspection. No box having mirroring side walls is disclosed. The examiner refers to Fig. 3

Application No.: 10/577,286  
Amendment and Response dated January 4, 2008  
Reply to Office Action of October 17, 2007  
Docket No.: 903-186 PCT/US  
Page 10

directed to the inspection of bottles, in which the lights are mounted on a metal wall 20 of cabinet 18. However, the cabinet 18 is not a box positioned above the conveyor in which a camera is accommodated, as the conveyor is positioned adjacent the cabinet and no camera is present. Observation of the milk bottles takes place through the lens 14, which is even further remote from the cabinet 18.

Thus, Ward fails to cure the above-described deficiencies of Kinoshita. Therefore, claim 6 is patentably distinct over Kinoshita and Ward. Reconsideration and withdrawal of the rejection of claim 6 is respectfully requested.

Claims 13 and 14 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over Kinoshita in view of U.S. Patent No. 5,321,491 to Summers et al. (hereinafter "Summers"). Applicant respectfully traverses.

Summers discloses a device for the grading of shell eggs having at least two cameras and a computer. Summers fails to disclose, teach or suggest a box positioned above a conveyor as claimed in the subject application.

Thus, Summers fails to cure the above-described deficiencies of Kinoshita. Therefore, claims 13 and 14 are patentably distinct over Kinoshita and Summers. Reconsideration and withdrawal of the rejection of claims 13 and 14 are respectfully requested.

### Summary

Therefore, Applicants respectfully submit that independent claim 1, and all claims dependent therefrom, are patentably distinct. This application is believed to be in condition for allowance. Favorable action thereon is therefore respectfully solicited.

Should the Examiner have any questions or comments concerning the above, the Examiner is respectfully invited to contact the undersigned attorney at the telephone number

Application No.: 10/577,286  
Amendment and Response dated January 4, 2008  
Reply to Office Action of October 17, 2007  
Docket No.: 903-186 PCT/US  
Page 11

given below.

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 08-2461. Such authorization includes authorization to charge fees for extensions of time, if any, under 37 C.F.R. § 1.17 and also should be treated as a constructive petition for an extension of time in this reply or any future reply pursuant to 37 C.F.R. § 1.136.

Respectfully submitted,



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## Statement dd. December 19, 2007

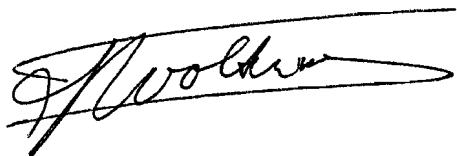
Herewith I, I.J.C.M.E. Wolterink, attest that the translation as indicated below is the only proper translation:

Page 4, lines 34-35 of the PCT application WO 2005/045406 as filed in Dutch (enclosed) read as follows:

*"Door de spiegelwerking van de zijwanden ontstaat op deze wijze een zich alzijdig als spiegelbeeld herhalende lichtbron"*

Page 5, lines 5-6 of the PCT application should be replaced by the proper translation of these lines:

*"As a result of the mirroring side walls a light source recurring as a mirror image on all sides is produced"*



I.J.C.M.E. Wolterink